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Volume 5, Number 5

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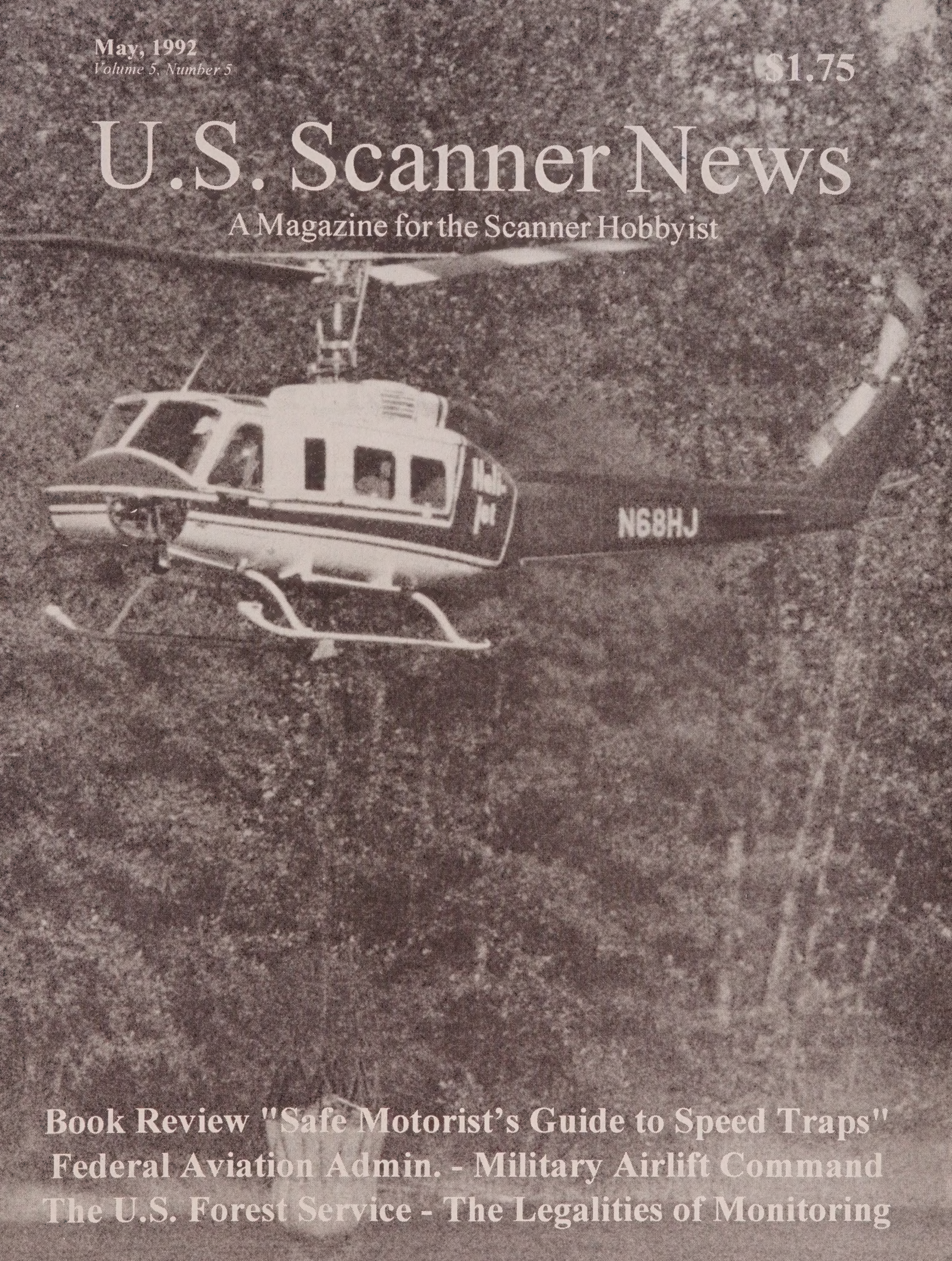
A Magazine for the Scanner Hobbyist



Book Review "Safe Motorist's Guide to Speed Traps"

Federal Aviation Admin. - Military Airlift Command

The U.S. Forest Service - The Legalities of Monitoring

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Cover Poto - A Huey contracted by the Forest Service to help suppress forest fires. In this shot, he has just dunked his bucket into a pond and is about to dump it on a forest fire in the Columbia Gorge last year. The picture is a little hazy because of the smoke from the fire.

(Photo by the Editor).

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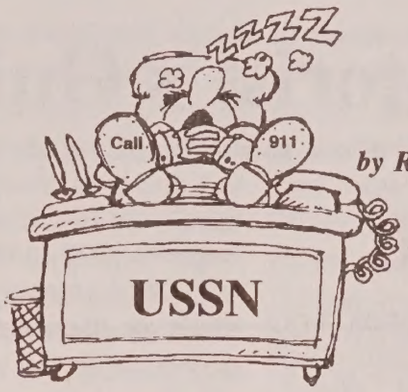

Editor

by Robert Gehri

This month we have dipped into the USSN vault and dusted off some of our early articles for reprint. This is necessary because we are getting more behind with each passing month. The creation of the regional directories is more time consuming than we had anticipated. This practice of reaching into the vault will be followed over the next two months so we can get the publication date back to normal.

I have an idea for a new column that I would like to share with you. However, this column would require some involvement from the readers. What I would ask of you is some of your experiences with your scanners. Let me give you an example of what I mean.

A few years ago I was sitting at a traffic light waiting for my turn when I heard the local sheriff's dispatcher sending a car to the mall. It seems that a mall security officer was run over by a hit and run driver.

As I was listening to the description of the car and subject, I noticed it was right in front of me. I followed the car until it stopped at a local store, at which time I called 911 to report the location of the car and subject. After what seemed like a long time, a sheriff's unit came along and the deputy arrested the subject.

The above description is short but I think you get the idea. Send in your experiences so they can be shared with all of the readers.

For those of you that use the USSN Computer BBS, we have a new system up and running. The software is the well known **Wildcat BBS by Mustang Software**. This software is quite popular and is much more friendly then the EIS System we were using. If it has been a while since you gave us a call, check back and take a look at the new system. For those of you that have never called a BBS, but have the ability, give it a try. This system is so easy to use that even if you don't know how to use a BBS you will still be able to find your way around ours, just by following the on screen prompts. **USSN BBS - (206) 694-7806**

Safe Motorist's Guide to Speed Traps.

Here's a must read book from well known authors

by Rob Charles

The title of the book only tells part of what is contained within its loose-leaf plastic bound covers.

The authors are nationally recognized contributing editors to "Road and Track" magazine as well as highway traffic safety analysts with many years of experience in dealing with citizen rights and traffic/civic affairs.

Of particular interest to scanner hobbyists who monitor two-way radio communications of state police, highway patrols and other public safety agencies enforcing traffic laws in some states, is a listing of known and reported frequencies used by these agencies. Only the continental 48 states are covered. Perhaps Alaska and Hawaii will be added in future editions to round out a complete coverage of all 50 states.

For each state, the agency responsible for enforcing traffic laws on both the state highway system and national interstate highway system within that state is identified by name together with a listing column indicating frequency 1 the base primary frequency. The next listing column lists frequency 2 or the mobile frequency, if one is used. The next listing column indicates the use function for the previous two columns. The fourth listing column indicates the troop/barrack/office identification assignment to the listed frequencies. In some states, this column may list a district number, highway number or some other use relating to the designated frequency. The next two columns list city, county and specific geographic location for frequencies assigned to a specific city. In some cases, a frequency or group of frequencies may be assigned to a county and/or a designated area within a state. The next listing column shows the numbered frequency channel as designated by the particular state agency. The next listing column list a frequency code designated by color name or other descriptive codes words for that frequency. The last listing column is for notes relating to that frequency which could include scrambled, encrypted, trunked, unknown use, etc.

In order for the frequency location to make sense, each state has an accompanying outline map showing area and/or district boundaries. Also indicated on each map are bold lines showing the principal interstate highway systems by number. This is very helpful when driving the interstate system and knowing which area or district you are in when trying to locate frequencies to monitor. This feature alone is worth the price of the book!

Now that you have your particular state's frequency line-up in mind and know where and how it is used and for what purpose, you then need to refer to the rest of this excellent publication to assist you in understanding how each

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state handles its traffic law enforcement and their "tools of the trade" or better known as the "enforcement arsenal". Keep in mind that the information provided is to help you drive safely while being informed as to what is out there on the highways to enforce the traffic laws.

In the forward, the authors DO NOT recommend exceeding the speed limit, but they tell readers who intend to exceed the limit how to keep from getting caught. Exceeding the posted speed limit doesn't always mean speeding. Exceeding the limit is a law violation when driving too fast for road conditions, for example. This is a violation of the social contract as the authors look at highway travel as a microcosm of a society within a society who has its own code of conduct, laws and armed forces, i.e. state police, highway patrol, etc. Societal success relies on voluntary cooperation and the will of the majority to exist with each other as laws are passed and sanctions imposed reflecting the will of the people to exist safely with restraints. The authors take this philosophical view into the next segment of this fascinating book by looking at what constitutes speed limits and how to look for speed traps. Many excellent tips are given on how to make time on the highways without making waves.

A well-documented discussion comes next with very detailed information on the latest enforcement arsenal items such as radar, VASCAR, aerial timing, lasers and pacing - all capable of generating a positive cash flow to local and state governments constituting a new and undeclared tax. Each of these instruments of choice in the enforcement arsenal are discussed in elaborate detail with an end of segment summary and quick review. Also noted are helpful hints in what to watch for when you suspect that one of the instruments of choice is being employed to assist you in adding to an agency's positive cash flow.

The next segment details the defenses available against speed traps, such as radar detectors, CB radio, scanners, "Sky Busters" and jammers. Each is carefully defined as to their specific effectiveness in alerting the presence of enforcement while not interfering with speed-measuring equipment. An excellent discussion is made for the use of scanners and how to use and program them for maximum effectiveness. Jammers continue to be illegal in all jurisdictions and are not to be used, according to the authors.

With a basic understanding of the who, what, why, where, and when of speed traps, their arsenal and how to defend your self on the streets and highways, the authors thoughtfully provide a fascinating and common sense approach to providing tips on fast and safe driving. A particularly interesting segment of the chapter dealing with fast driving notes

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how to make time at high speed, moderate speed and slow speed while observing the previously discussed characteristics of high enforcement areas and tactics.

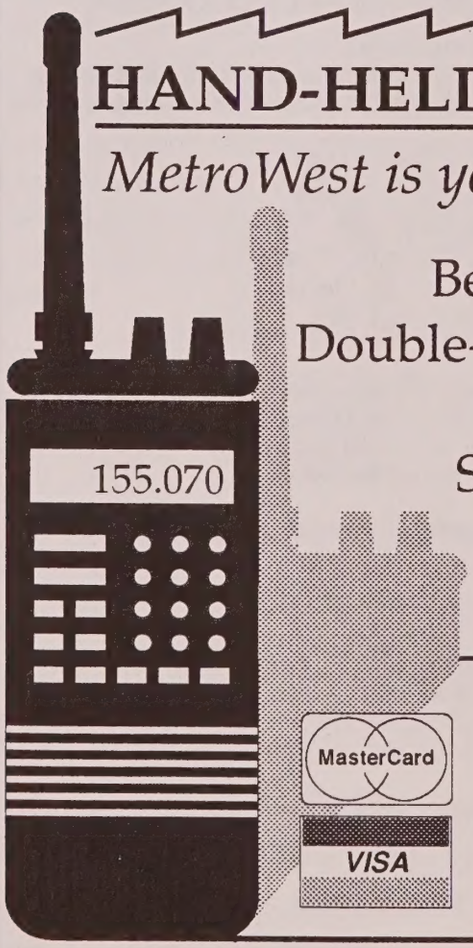
What do you do when its your turn to pay the "enforcement tax" keeping in mind that the agencies usually have unlimited time and superior resources to develop the "tax" for their agencies? A well-discussed section on "stops", how to have your say in court and counteracting the myths regarding speed, exceeding posted limits and the safety effect through enforcement provides a wealth of needed information. In addition, the authors spend time on how to spread the word regarding the outlawing of speed traps as has been done in California.

The next main section deals with state by state "hot spots" which are interstate and/or state highways identified as to specific locations and characterized for more strict enforcement. Almost every state has the distinction of one or several location and the reason why it's strictly enforced.

The largest segment of the book then deals with a state by state adversary directory discussed above with respect to its value to scanner users. Each state is treated separately and is uniform in its presentation of the following items. Almost each state has a picture of a typical "marked" patrol vehicle together with the number of vehicles, make, model, marked and unmarked together with vehicle notes particular to that state. Motorcycles, if any, are noted plus any aircraft. Legality of radar detectors is listed for each state. VASCAR usage is noted. Timing marks on the side of highways are described in detail. Ever wonder what those funny lines were for on the edge of highways? Now you will know. Tactical methods are listed. Speed fine data is carefully detailed together with a synopsis of driver license point systems. Other driver license data reporting to compact states is noted.

Legal and illegal use of scanners is noted together with any limitations. A chart pro-

Continued on page 19



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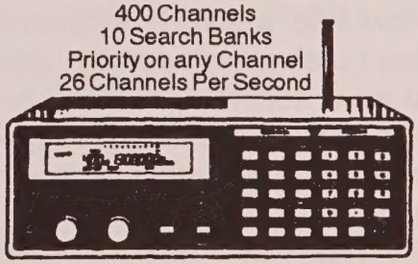

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Federal Aviation Administration

A look at the agency that is responsible for air safety

Now an operating arm of the Department of Transportation, the Federal Aviation Administration (FAA) traces its ancestry back to the Air Commerce Act of 1926, which led to the establishment of the Aeronautics Branch (later reorganized as the Bureau of Air Commerce) in the Department of Commerce, with authority to certify pilots and aircraft, develop air navigation facilities, promote flying safety and issue flight information.

The Government acted just in time. In May 1927, Charles Lindbergh bridged the North Atlantic in 33 and one-half hours, generating new interest and enthusiasm for aviation in both Europe and America.

Aviation continued to grow and expand at a very rapid rate in the decade following Lindbergh's flight, creating a need for new machinery to regulate civil aviation. The result was the Civil Aeronautics Act of 1938, which establishes the independent Civil Aeronautics Authority, with responsibilities in both the safety and economic areas. In 1940, the machinery was readjusted and the powers previously vested in the Civil Aeronautics Authority were assigned to a new Civil Aeronautics Administration (CAA), which was placed under an Assistant Secretary in the Department of Commerce, and a semi-independent Civil Aeronautics Board (CAB), which had administrative ties with the Department of Commerce but reported directly to Congress.

The CAA performed yeoman service during World War II, but proved unequal to the task of managing the airways in the years after the war due to the tremendous surge of civil air traffic and the introduction of new high-performance aircraft. In 1958, the same year American jets entered commercial service, Congress passed the Federal Aviation Act, which

Aircraft Allocation Table

108.100 - 117.950	VOR (108.100 - 111.950 ILS Localizer)
118.000 - 121.400	Air Traffic Control (ATC)
121.500	Emergency & Distress Calling
121.600 - 121.925	ATC (Ground Traffic Control)/Utility
121.950	Aviation Support
121.975 - 122.675	ATC & FAA Flight Service Stations
122.000, 122.050	En route Flight Advisory
122.100, 122.150	FSS Receive Only
122.300, 122.400, 122.600	FSS En route Simplex
122.700 - 122.725	Aeronautical Advisory (Unicom)
122.750	Private Aircraft, Air-to-Air
122.775	Aviation Support
122.800	Aeronautical Advisory (Unicom)
122.825	Aeronautical En route Service
122.850	Aeronautical Multicom/Aviation Support
122.875	Aeronautical En route Service
122.900	Multicom/ Search & Rescue/ Search & Rescue Training/ Airport Advisory
122.925	Multicom/State-Federal Environmental
122.950 - 123.000	Aeronautical Advisory (Unicom)
123.025	Helicopters Air-to-Air
123.050 - 123.075	Aeronautical Advisory (Unicom)
123.100	Search and Rescue
123.125 - 123.150	Flight Testing (Manufacturers Only)
123.175 - 123.225	Flight Testing
123.250 - 123.275	Flight Testing (Manufacturers Only)
123.300	Aviation Support
123.325 - 123.350	Flight Testing (Manufacturers Only)
123.375 - 123.400	Flight Testing
123.425	Flight Testing (Manufacturers Only)
123.450	Flight Testing (Used as air-to-air bootleg freq.)
123.475	Flight Testing (Manufacturers Only)
123.500	Aviation Support
123.525 - 123.575	Flight Testing (Manufacturers Only)
123.600	ATC (Uncontrolled Airport Advisory)
123.625 - 128.800	ATC
128.825 - 132.000	Aeronautical En route Service
132.025 - 135.975	ATC

created the independent Federal Aviation Agency with broad authority to regulate civil aviation and provide for the safe and efficient utilization of the nation's airspace.

In April 1967, the Federal Aviation Agency became the Federal Aviation Administration and was incorporated into the new Department of Transportation, which had been established to give unity and direction to a coordinated national transportation system. The FAA's basic responsibilities remain unchanged, however. While working with other administrations in the Department of Transportation in long-range transportation planning, the FAA continues to concern itself primarily with the promotion and regulation of civil aviation to insure safe and orderly growth.

One of the FAA's principal responsibilities is the operation and maintenance of the world's largest and most advanced air traffic control and air navigation system.

Almost half the agency's workforce is engaged in some phase of air traffic control. They staff airport control towers, air route traffic control centers and flight service stations.

Their technicians and engineers are required to install and maintain the various components of this system, such as radars communications sites and ground navigation adds. For example, the system includes more then 275 long-range and terminal radar systems, more the 800 Instrument Landing Systems and approximately 950 Very-High-Frequency omnidirectional radio ranges. FAA operates its own fleet of specially equipped aircraft to check the accuracy of this equipment from the air.

Almost all airline flights, and many general aviation (non airline) flights, operate under instrument flight rules (IFR) regardless of weather conditions. This means they are followed from takeoff to touchdown by Air Traffic Control to insure that each flies in its own reserved block of airspace, safely separated from all other air traffic in the system.

A typical transcontinental flight from Los Angeles to New York, for example, involves almost a dozen air traffic control facilities. From the tower at Los Angeles Interna-

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tional Airport, the flight is transferred, or "handed off", first to the terminal radar control room and then to the Air Route Traffic Control Center at Palmdale, Calif. The Salt Lake City center takes control next and, depending on the route, may be followed by the Denver, Kansas City, Chicago, Cleveland, and New York Centers.

Approximately 30 miles from John F. Kennedy International Airport, the flight is handed off to the radar approach control facility serving all New York airports and, finally, to the JFK tower, which issues final landing instructions. Only when the aircraft is safely on the ground and has taxied clear of other traffic does the FAA's responsibility and concern for the safety of the passenger and crew on that particular flight end.

When weather conditions permit, many general aviation pilots follow visual flight rules (VFR), which means they maintain separation from other aircraft on a "see and avoid" basis. Although VFR flights essentially are outside the air traffic control system, except in busy terminal areas, they must follow well established rules of the road designed to maximize the safety of such operations. VFR flight also is banned from certain heavy-use airspace such as along the jet routes above 18,000 feet.

VFR pilots rely heavily on the FAA's network of more then 300 Flight Service Stations to obtain pre-flight and in-flight briefings, weather information, suggested routes, altitudes and other information important to flight safety. The Flight Service Station also is a friend-in-need to VFR pilots who are lost or otherwise in trouble. In addition, these facilities will initiate search and rescue operations when a VFR aircraft is overdue.

To keep pace with the rapid growth of aviation in the 1960s and 1970s, the FAA implemented a computer-based, semiautomatic air traffic control system at all of the 20 en route centers serving the contiguous United States and at all major terminal facilities. The system tracks controlled flights automatically and tags each target with a small block of information written electronically on the radar scopes used by controllers.

Included in this data block are aircraft identity and altitude, information which previously had to be acquired by voice communications, thereby imposing a burden on both pilots and controllers, contributing to radio frequency congestion and providing the possibility of human error.

In January 1982, FAA published its 20-year plan for upgrading and modernizing the nation's air traffic control and air navigation system. Known as the National Airspace System (NAS) Plan, it calls for replacement of the present air traffic control computers with the latest state-of-the-art equipment and evolution of traffic control functions to higher levels of automation. Other key elements include automation and consolidation of the Flight Service Station network, installation of advanced new landing system, deployment of new primary and secondary radar systems, replacement of vacuum-tube communications and navigation equipment with modern solid-state technology, and a

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major upgrading of both the quality and timeliness of weather services to pilots. Implementation of the NAS Plan was begun in late 1982 following Congressional endorsement and creation of a funding mechanism.

One of FAA's most significant efforts is aimed at expanding and modernizing the nation's airport facilities to meet projected traffic demands into the 1990s and beyond.

Although the present airport system in the United States includes almost 16,000 facilities, only one third of these are publicly owned. The rest are in private hands and the majority are closed to the public. Moreover, only 5,200 airports have paved runways and 4,800 have lighted runways.

Although air safety is the FAA's top priority, the agency also has important responsibilities for safeguarding the environment and ensuring that aviation is a good neighbor. The agency considers these responsibilities critical to aviation in the United States.

A significant measure of progress already made in reducing aircraft noise is represented by the newest generation of commercial jets, such as the Boeing 757 and 767 and the McDonnell Douglas DC-9-80. Although their engines have more than two and a half times the thrust of first-generation jet engines, they are 20 to 25 decibels less noisy, much cleaner burning, and far more fuel-efficient.

The FAA supports all of its safety, security, and environmental programs with extensive engineering and development (E&D) projects, conducted in part through contracts with industry, other government agencies, and universities. Much of the E&D work, however, is done in-house at FAA's Technical Center at Atlantic City, N.J., and the Transportation Systems Center at Cambridge, Mass. Aeromedical research is done at the FAA's Civil Aeromedical Institute at Oklahoma City.

A continuing priority of the agency's E&D effort is further automation of the air traffic control (ATC) system to meet the projected traffic demands of the 1990s and beyond. In accordance with the National Airspace System (NAS) Plan, the FAA is proceeding with a program to replace the present ATC computers with the latest state-of-the-art equipment that will provide the increased capacity required to handle the projected traffic volumes of the 1990s. Concurrent with this project, FAA is developing the Advanced Automation System which includes new computer software to accommodate higher levels of automation, new controller work stations, or "sector suites," and new processors.

Another NAS Plan program involves the modernization and consolidation of the agency's Flight Service Station network of more than 300 facilities. The plan calls for replacement of the present manual system for briefing pilots with a new computer-based system that will permit fewer facilities to provide weather information more efficiently to a greater number of pilots at less cost.

In addition to the NAS Plan support activities, the FAA is involved in a variety of other E&D efforts aimed at improving air safety, increasing air traffic control efficiency, and enhancing the environment. Considerable effort, for example, is being devoted to improving the crash-worthiness and fire safety characteristics of aircraft. This program already has developed more heat-resistant emergency escape slides and more efficient fire extinguishers. It also has demonstrated the effectiveness of fire-blocking layers for passenger seats and improved emergency lighting systems.

USSN

Military Airlift Command (MAC)

A look at the air transport branch of the Armed Services

By R.L. Gary

The precursor of MAC was the Air Corps Ferrying Command (ACFC) which was established in May, 1941, to co-ordinate ferrying of Lend Lease supplies to England. In June, 1942, the ACFC became the Air Transport Command (ATC) and then became the Military Air Transport Service (MATS) in June 1948, and then the Military Airlift Command (MAC) in January 1966.

The headquarters for the Military Airlift Command is Scott AFB, Illinois. There are three numbered air forces, the 21st, which operates from McGuire AFB, New Jersey. Their area of responsibility is Canada, Greenland, Iceland, NATO Europe, Africa and the Middle East, the Caribbean and South America.

The 22nd Air Force, which operates out of Travis AFB, California, has the responsibility for the entire Pacific area, Antarctica, Diego Garcia and west to the Arabian Peninsula to the 21st area.

The 23rd Air Force from Scott AFB. There are no geographic boundaries for the 23rd Air Force. Their mission is special Operations and Aerospace Rescue and Recovery Service (ARRS).

There is one other service that MAC performs to support Army and Air Force unit worldwide, that is MAC's Air Weather Service (AWS) which is headquartered at Scott AFB. AWS operates a network of weather observation and forecasting stations worldwide. AWS and ARRS work together on tropical-storm reconnaissance and they provide weather forecasting for aircraft deployment, missile and satellite launches and other military operations. They also monitor solar activity and other space phenomena.

The Military Airlift Command is the military's version of a commercial airline. They handle movement of men and materials for the other branches of the military. Like commercial airlines, if the army wishes to move a tank or personnel then they must pay into the Airlift Service Industrial Fund.

The Military Airlift Command has established a worldwide route structure serving 21 aerial ports, 22 operating locations, and 13 Commercial Gateway Operating Locations at 13 major commercial airports. MAC has regular scheduled passenger and cargo routes and provides transport for members of the Legislative and Executive Branches of the U.S. Government, including the President, through the 89th Military Airlift Wing based at Andrews AFB.

MAC Bases

Scott AFB (MAC H.Q.)

Belleville, Illinois

Scott AFB was activated in June, 1917, and was named after Cpl Frank Scott, who was the first airman to die in a crash. Scott is also the home of the Air Force Communication Command, Airlift Communication Division, Air Weather Service, 7th Weather Wing, the Environmental Technical Applications Center, 375th Aeromedical Airlift Squadron, Aerospace Rescue and Recovery Service, the 932nd Aeromedical Airlift Group and the USAF Medical Center, Scott.

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Communications

Pilot to Dispatcher		372.200
ATIS (1100-500Z)	118.650	273.500
Approach Control	124.700	259.100
Tower	126.200	253.500
Ground Control	119.200	257.800
Clearance Delivery	121.750	225.400
Command Post	130.650	383.200
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Metro Service		239.800

Altus AFB

Altus, Oklahoma

This air field was active as an AAF air field during WWII and then was reactivated as an Air Force Base in January, 1953. Altus is the home of the 443rd Military Airlift Wing which provides training for C-141 and C5 transport air crews. The Strategic Air Commands 340th Air Refueling Group is also stationed here.

Communications

Pilot to Dispatcher		372.200
ATIS (1100-0600Z)	109.800	273.500
Approach Control	125.100	348.300
Tower	126.200	255.600
Ground Control	126.200	289.400
Departure Control	125.100	290.900
Command Posts		
MAC		349.400
SAC		311.000
		321.000
Metro Weather Service		239.800

Andrews AFB

Washington, DC

This AFB is named after Lt. General Frank Andrews who was killed in an air crash in Iceland on May 3, 1943. Andrews AFB is the home of the Air Force Systems Command and the 113 Tactical Fighter Wing. However the tenant that we hear the most about is the 86th Military Airlift Wing, which flies VC-137 VIP Executive transports and Air Force One for the Executive Branch.

Communications

Pilot to Dispatcher	122.850	372.200
ATIS	113.100	251.050
Approach Control	124.000	294.500
Tower	118.400	289.600
		236.600
Ground Control	121.800	275.800
Departure Control	125.650	269.500
Clearance Delivery	127.550	393.100
AF Reserve Ops.	143.800	351.200
Command Post	141.550	378.100
Metro Service		344.600
OLAA Maintenance		314.250
113th Maintenance		234.800

Charleston AFB

North Charleston, South Carolina

Active during WWII as an AAF, Charleston was reactivated in August, 1953.

Communications

Unicom	122.950	
Pilot to Dispatcher		372.200
ATIS	124.750	
F.S.S.	122.000	255.400
Approach Control	120.700	319.800

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Tower	126.000	239.000
Ground Control	121.900	348.600
Departure Control	120.700	319.800
	135.800	257.100
Clearance Delivery	118.000	381.600
Command Post	130.650	349.400
Metro Service		344.600

Dover AFB

Dover, Delaware

This AFB was active as an AAF field during WWII and reactivated in February, 1951, as an Air Force Base. Dover is the largest air cargo air base on the East Coast and is responsible for an area from the Mississippi River east to New Delhi. The 436th Military Airlift Wing is one of only two airlift units that fly the massive C-5 Galaxy.

Communications

Pilot to Dispatcher		372.200
ATIS		273.500
Approach Control	125.900	359.300
	128.000	135.150
	142.200	339.100
Tower	126.350	327.500
Ground Control	121.900	225.400
Departure Control		324.500
Clearance Delivery	125.550	289.400
Command Post	130.650	349.400
Metro Service		342.500

Kirtland AFB

Albuquerque, New Mexico
Albuquerque International Airport

This AFB was activated in 1941 and was named after Col Roy Kirtland. Kirtland is the home of the 1550th Air crew Training and Test Wing, and the 1606 Air Base Wing. This base is used by a lot of different installations. There are over 4,000 military and 12,000 Civilian personnel located at Kirtland. Some of the other installations located here are; Air Force Weapons Laboratory, Air Force Systems Command, Air Force Test and Evaluation Center, Air Force Directorate of Nuclear Security, Air Force Contract Management Division, Defense Nuclear Agency Field Command, Naval Weapons Evaluation Facility, Lovelace Biomedical and Environmental Research Institute, Department of Energy's Albuquerque Operations Office, and the Air National Guard's 150th Tactical Fighter Group.

Communications

Unicom	122.950	
Pilot to Dispatcher		372.200
ATIS	118.000	363.800
F.S.S.	122.200	255.400
	122.300	
	122.550	
App/Dep Control	127.400	316.700
	121.100	317.600
	123.900	354.100
	124.400	301.500
Tower	118.300	257.800
	120.300	
Ground Control	121.900	348.600
Clearance Delivery	119.200	385.600
Command Post		349.400
		327.200
Metro Service		342.500

Little Rock AFB

Little Rock, Arkansas

This base was activated in 1955 and is the home of the 314th Tactical Airlift Wing. SAC's 308th Strategic Missile Wing and the 22nd Air Force Leadership School is also located on Little Rock AFB.

Communications

Pilot to Dispatcher		372.200
ATIS		271.300
App/Dep Control	123.850	385.600
Tower	126.200	348.400
Ground Control		275.800
Clearance Delivery		275.800
Command Post		349.400
Metro Service		239.800

McChord AFB

Tacoma, Washington

McChord AFB was activated in May, 1938, and named after Col. William McChord who was killed while making a forced landing in Maidens, Virginia. It is home for MAC's 62nd Military Airlift Wing, AFRES 446th Military Airlift Wing, the 25th Air Division and 318th Fighter Interceptor Squadron.

Communications

Pilot to Dispatcher		372.200
ATIS		270.100
App/Dep Control	125.400	391.900
Tower	124.800	236.600
		259.300
Ground Control	121.650	275.800
Command Post	130.650	349.400
Metro Service		342.500

McGuire AFB

Trenton, New Jersey

McGuire borders Fort Dix Army Post and was originally the Fort Dix Army Air Field. In 1949, it was turned over to the Air Force and named after Thomas McGuire Jr, the second ranking ace of World War II with 38 kills, who was killed in the Philippines in January, 1945. McGuire is the headquarters of MAC's 21st Air Force, 438th Military Airlift Wing, the AFRES 514th Military Airlift Wing, the MAC NCO Academy East, Air National Guard's 170th Air Refueling Group and 108th Tactical Fighter Wing.

Communications

Pilot to Dispatcher		372.200
ATIS		265.500
Approach Control	120.000	318.200
	120.250	363.800
	127.500	259.300
Tower	120.600	236.600
		255.600
Ground Control	121.800	257.800

Departure Control	120.250	363.800
	127.500	259.300
Clearance Delivery	135.200	335.800
Army Operations	41.35 FM	265.600
	122.859	
Command Post	130.650	319.400
Metro Service		239.800

Norton AFB

50 Miles East of Los Angeles, California

This base was activated in March, 1942, named after Capt. Leland Norton who was killed in action in May, 1944. The 63rd Military Airlift Wing and AFRES 445th Military Airlift Wing are based here. Norton is also home for the MAC NCO Academy West and 22nd Air Force NCO Leadership School. The Air Force Inspection and Safety Center, Aerospace Audio-visual Service, Air Force Audit Agency and AFSC's Ballistic Missile Office are also located here.

Communications

Pilot to Dispatcher		372.200
Approach Control	127.000	318.200
Tower	119.450	320.100
Ground Control	121.800	289.400
Departure Control	134.000	327.500
Clearance Delivery	121.800	289.400
Command Post	130.650	349.400

Pope AFB

Fayetteville, North Carolina

Pope AFB was activated in 1919 and named after Lt. Harley Pope, a World War I pilot who was killed in January, 1919, in a crash near Fayetteville. Adjacent to Fort Bragg, Pope is USAF Airlift Center. Pope AFB is also the home of the 1st Aeromedical Evacuation Squadron, 317th Tactical Airlift Wing and the AFRES 5th Mobile Aerial Port Squadron.

Communications

Pilot to Dispatcher		372.200
ATIS	132.300	
App/Dep Control	133.850	288.300
	127.800	393.000
	133.000	295.000
	127.800	393.000
	119.550	340.700
Tower	126.200	291.100
Ground Control	134.100	275.800
Command Post	130.650	319.400
		340.800
Metro Service		344.600

Travis AFB

Fairfield, California

In service since May, 1943, this base was named after Brig. Gen. Robert Travis who was killed in August, 1950, in a B-29 crash. MAC's 22nd Air Force and the 60th Military Airlift Wing are headquartered here. Travis is the home for the AFRES 340th Military Air Lift Wing and SAC's 307th Air Refueling group. The 60th Military Air Lift wing is one of only 2 units to fly the massive C-5 Galaxy Transport.

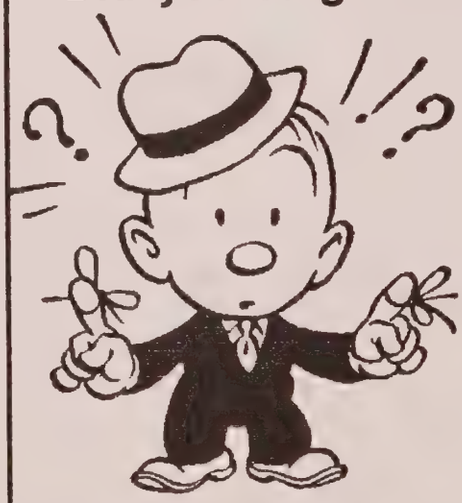
Communications

Unicom	123.300	
Pilot to Dispatcher		376.000
ATIS	116.400	384.900
Approach Control	119.900	371.200
	126.600	291.000
Tower	120.750	255.900
		236.600
Ground Control	121.800	289.400
Departure Control	119.900	317.200
	126.600	395.900
Clearance Delivery	127.550	335.800
Command Post	130.650	349.400
	141.900	
Metro Service		375.200

There you have it; all you could ever wish to know about the Military Air Lift Command. I must give credit to Bill Yenne whose book, The History of the U.S. Air Force, I used for reference in creating this article. If you are at all interested in the U.S. Air Force, I would highly recommend this publication.

All of the communications frequencies were taken from the IFR Supplement which is published by the Defense Mapping Agency Aerospace Center, 3200 South Second Street, St. Louis, Missouri 63118-3399.

Did you forget?



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U.S. Forest Service

An overview of the agency that is responsible for the management of your National Forest.

Compiled by L.J. Smith from U.S.F.S. Documents written by Forest Service Employees

On February 1, 1905, President Theodore Roosevelt signed the act transferring the Nation's Forest Reserves from the Department of the Interior to the Department of Agriculture. That same day, Secretary of Agriculture James Wilson endorsed Gifford Pinchot's conservation philosophy of wise use and service to the American people. The Forest Reserves, later renamed the National Forest, were to be managed for the greatest good for the greatest number of people in the long run. Local questions were to be decided by local officials--a philosophy that has made the Forest Service one of the most decentralized and responsive agencies in the Federal Government.

The Forest Service enriches the lives of Americans in many ways through management of the Nation Forests and Grasslands, forest research, and cooperation with forest managers on state and private lands. The Forest Service is dedicated to multiple-use management for the sustained yield of renewable resources such as water, forage, wildlife, wood, and recreation. Multiple-use means managing resources under the best combination of uses to benefit the American people while ensuring the productivity of the land and protecting the quality of the environment.

The Forest Service also provides the scientific and technical knowledge necessary to protect the Nation's natural resources on all lands, gain the maximum benefit from their use, and leave the environment unspoiled. Research is conducted through a network of Forest and Range Experiment Stations and the Forest Products Laboratory in Madison, Wisconsin.

The National Forests are truly America's Great Outdoors! Your 156 National Forests cover an area about the size of California, Oregon, and Washington combined and stretch from Alaska to Puerto Rico. They offer outstanding opportunities for outdoor recreation. Wherever you are in America, you're probably no more than a day's drive from a National Forest, where you can hike, fish, camp, ski, or just sit back and enjoy the forest surroundings. Over 100,000 miles of trails and 10,000 recreation sites await you nationwide.

National Emergency Channels

Nationwide

Channel	Ch. Name	Frequency	Remarks
VHF-1	Emergency Air Tactics	122.925	
VHF-2	Emergency Air Tactics	122.900	
VHF-3	Emergency Air Tactics	122.850	
BLM	BLM Air Operations	167.950	
AN	Air Net	168.625	
ANR	Air Net Repeater	168.625	Input - 168.025
A1	Air Tactics 1	166.675	
A2	Air Tactics 2	169.150	
A3	Air Tactics 3	169.200	
A4	Air Tactics 4	170.000	

Boise Radio Cache - Boise Interagency Fire Center

NIIMC	Nat. Inter-Agency Incident Mag. Sys.	168.550	
C1	Command Net 1	168.700	
C1R	Command Net 1 Repeat	168.700	Input - 170.975
C2	Command Net 2	168.100	
C2R	Command Net 2 Repeat	168.100	Input - 170.450
C3	Command Net 3	168.075	
C3R	Command Net 3 Repeat	168.075	Input - 170.425
T1	Tactical 1	168.050	
T2	Tactical 2	168.200	
T3	Tactical 3	168.600	

Fire Protection of Forest Lands

In spite of many fire disasters in the last half of the nine-

teenth century, fire protection was slow in coming to publicly-owned land. No federal organization had been given that responsibility. In 1882, the American Forest Association recommended establishment of designated patrols for "fire ranging", as it was called, to protect America's wild lands. In 1885, the state of New York led the way in fire detection by allotting funds for a fire protection program for the newly-created Adirondacks Forest Reserve. These first efforts at fire protection included both foot and horse patrols. Their duties consisted primarily of discovering and extinguishing fires.

The New York effort was paralleled by the U.S. Army in its Yellowstone Reserve, and by the provincial government in the Canadian province of Ontario.

Following disastrous fire years in 1903 and 1904, private landowners in Oregon and California initiated the first private land protection organizations.

The USDA Forest Service, as mentioned earlier, came into existence in 1905 with the passage of the Transfer Act, but progress in providing fire protection to the vast public domain was slow to come, as Congress provided very little funding for administration. Gradually, however, funds were provided, and the federal fire protection organization began to grow. It was during this early formative period that fire protection lookouts first appeared. Most were very simple, often only a tree with a ladder attached, or a small platform constructed on a barren, rocky peak. Hardy former cowboys, trappers, or miners, called "lookout fireman," performed the lookout duties. Once a fire was spotted, they traveled to the fire to extinguish it. The lack of communications with the outside world was of little consequence, since these areas were remote and no other backup firefighters were available for many miles.

Later, as the Forest Service work force grew, came a need for a communications system that could be used by the lookout firemen to report fires and to summon assistance. The telephone made its appearance about 1910. Hundreds of phones, along with thousands of miles of telephone line, were installed at lookout points over the next few years. Heliographs (a signal device using reflected sunlight) were also tried with some success. In some locations, carrier pigeons were used to fly fire reports between lookouts and ranger stations.

In 1919, following World War I and several disastrous fires on the west coast, the Army Flying Service was pressed into fire detection service. Patrols began in California, Oregon and Washington. Captain Henry (Hap) Arnold, later Commanding General of the Army Air Force during World War II, was one of the early pioneers in aerial fire detection. This effort was short-lived due to national actions to reduce the size of the military force.

In 1929, the stock market crash initiated the beginning of a new era in wild land fire protection. A large body of personnel became available for the purpose through the Civilian Conservation Corps (CCC), contributing to great growth in the ability to detect and suppress forest fires. In just one year, 1936, the following im-

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provements took place on the National Forest: 611 fire lookouts constructed; 11,402 miles of truck trails constructed; 62,920 miles of trail constructed; and 44,750 miles of telephone lines installed.

Today, many of the CCC facilities continue as part of the fire protection system. With the outbreak of World War II, the extensive fire lookout system found a new role in addition to its primary mission. Fears of air attack prompted the creation of an "Aircraft Warning System" to watch for and report enemy aircraft. The system of lookouts was manned by husband-and-wife teams on a year-round basis throughout the war years.

In the post-war years, the costly lookout system began to give way to fire detection by aircraft. In addition to being much less expensive to operate, the aircraft had the added advantage of being able to view fires directly. Its mobility allowed a single plane to replace a number of lookouts. By 1970, the detection aircraft had become the standard, and the lookout system was only a shell of its former self.

Today, another shift is taking place. Aircraft have become more expensive while the development of a vast road system has made the forest an attractive playground for millions. People, by their presence, have became an important arm of the fire detection system. A high percentage of fires in National Forests are first sighted and reported by forest users or Forest Service employees traveling the road system.

Several methods and types of detection systems are available today, and two or three more systems are in the development and testing stages for future use.

Organized detection of fires is ordinarily accomplished by means of one or more of the traditional methods and facilities. Forest lookout towers are still an effective means by which wild land fires, especially human-caused fires, are located. Ground patrols over planned routes at specific times are also a common means of initial detection, especially during periods of known high fire danger. Aerial patrols over planned routes under specific circumstances have proven their worth as a detection tool, particularly over rough and inaccessible terrain. The addition of electronic lightning detectors and computers has made detection efforts even more efficient.

Other detection methods use the aid of local residents and fire protection cooperators, as well as reports of fires by commercial airliners and private planes. Forest workers, both government and private, and National Forest visitors are also relied on for initial fire detection reports.

New methods include the use of infrared sensing and photographic equipment. These are basically heat sensing devices that can be mounted on aircraft or satellites. Another system being tested is a sta-

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tionary rotating television camera that can be mounted at a lookout tower. The view from the camera would be transmitted back to the dispatcher.

Needless to say, two-way radio plays an important part in all of the National Forests. Almost every field person will have a radio for instant contact with their ranger station, district office, vehicles and spotter planes. The radios are used for day-to-day operations and fire suppression.

The U.S. Forest Service utilizes frequencies in most of the assigned government frequency ranges. Not only do they use radio for two-way communications but for telemetry for various purposes. The largest percentage of two-way radio communications are confined to blocks of frequencies in the 168 MHz to 173 MHz area. There is also a block of frequencies in the 411 MHz and 415 MHz area that is used for links to control remote transmitter VHF sites.

Table 1 list the frequencies used for forest fire suppression when the fire has an expected length of at least 14 days. These frequencies are set aside for the express purpose of fire suppression, and are managed by the National Interagency Fire Coordination Center in Boise, Idaho at the Boise Interagency Fire Center.

The National Interagency Fire Coordination Center is responsible for the planning, communications, situation monitoring, need projection and expediting resource orders between the Bureau of Indian Affairs, Bureau of Land Management, Fish & Wildlife, Forest Service, National Park Service, and the National Weather Service. They utilize established resources to meet anticipated and existing fire protection needs regardless of geographic location or agency affiliation.

The Boise Interagency Fire Center maintains a large inventory of communications equipment to be used in the event of a wildfire on government lands.

You should take note that the command net frequencies (168.700, 168.100, 168.075 MHz) can be used for other than forest fire operations. The Department of Agriculture has used them for spraying operations and the U.S. Geological

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Service has used them at Mt. Saint Helens. Any time a major disaster happens that the U.S. Government is involved in, the command frequencies should be checked.

The Boise Interagency Fire Center maintains portable communications equipment in large cases for immediate shipment to any emergency that has been deemed to require them. This equipment is ready to be shipped at any time, day or night, to any location in the United States, at a moments notice. Table 2 list the channel plans of this equipment.

The Forest Service maintains a system of repeaters on 168.625 MHz which is designated as the Air Net System. The primary uses of this system is for calling, long range dispatch and flight changes, initial dispatch and instruction, flight plan closings, and air net flight following. This frequency is also used in a simplex mode for short range communications.

Each aircraft is equipped with a multi-channel radio that is programmable on any frequency between 150.000 MHz to 173.995 MHz. The radio has eight pre-programmable channels as well as dial-up capability on a ninth channel. This radio is used for both air tactics and ground/air coordination communications. There are separate receivers, with two guard channels; one guard channel is the Air Net 168.625 MHz, and the other is Bureau of Land Management Operations on 168.550. This type of radio is used in all air tankers, lead planes, helicopters and smoke jumper aircraft.

The air tankers used by the Forest Service are contracted from private companies around the country. The pilots must be ready to leave at a moments notice and fly into unfamiliar terrain under the most severe conditions, with aircraft that were never meant to perform in that environment. It would do no good for a pilot to drop his load of retardant from 3000 feet, so he must fly at tree-top level in adverse air conditions created by the fire. We should take our hats off to the gallant men and their flying machines for a job well done, for without them our National Forests would not be what they are today.

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The Legalities of Monitoring

A look the the Electronic Communications Privacy Act of 1986

On December 7, 1987, the United States Court of Appeals, Fifth Circuit in New Orleans in the case of "Marion EDWARDS verses STATE FARM INSURANCE COMPANY and John Doe", found in favor of the defendant in a case where the defendant had overheard a cellular phone conversation that he thought dealt with a criminal act, he relayed the information to the U.S. attorney. The plaintiff brought suit against the defendant for invasion of privacy and violation of the Communications Act of 1934.

This case dealt only with the Communications Act of 1934, and not with the more recent Electronic Communications Privacy Act of 1986. Since the interception of the cellular phone conversation took place in August, 1985, before the ECPA was passed into law, and since there was no provision for the ECPA to be applied retroactively it had no bearing on this case. In all probability if the same incident happened today, then the outcome would have been different.

Over the last two years, there have been many different stories about the ECPA and what it means to the scanner hobbyist, most of which have been the author's interpretations. What I am going to do is reproduce the sections of the Federal Wiretap Law and Senate Report 99-541 that have an effect on us as scanner hobbyists. I will start with the Senate Report and then the actual law after that. After you read this article, you should have a reasonable idea of what you may and may not listen to.

Senate Report 99-541

(Exerts by R.L. Gary)

The Electronic Communications Privacy Act Amends Title III of the Omnibus Crime Control and Safe Streets Act of 1968 - the Federal Wiretap Law - to protect against unauthorized interception of electronic communications. The bill amends the 1968 law to update and clarify Federal privacy protections and standards in light of changes in new computer and telecommunications technologies.

Title III is the primary law protecting the security and privacy of business and personal communications in the United States today. Its regimen for protecting the privacy of voice communications is expressly limited to the unauthorized oral interception of wire or oral communications.

As Senator Leahy said when he introduced S. 2575 with Senator Mathias, the existing law is "hopelessly out of date." It has not kept pace with the development of communications and computer technology. Nor has it kept pace with changes in the structure of the telecommunications industry."

These tremendous advances in telecommunications and computer technologies have carried with them comparable technological advances in surveillance devices and techniques. Electronic hardware making it possible for over zealous law enforcement agencies, industrial spies and private parties to intercept the personal or proprietary communications of others are readily available in the American market today.

Title I of the Electronic Communications Privacy Act addresses the interception of wire, oral and electronic communications. It amends existing Chapter 119 of Title 18 to bring it in line with technological developments and changes in the structure of the telecommunications industry.

In order to underscore that the inadvertent reception of a protected communication is not a crime, the subcommittee on Patents, Copyrights and Trademarks changed the statement of requirement under Title III of the Omnibus Crime Control and Safe Streets Act of 1968 from "willful" to "intentional." This change in the law addresses the concerns of radio scanners that, in the course of scanning radio frequencies in order to receive public communications, one could inadver-

tently tune through a protected communication like a cellular telephone call. This provision makes clear that the inadvertent interception of a protected communication is not unlawful under this Act.

Senator Simon had expressed concern that the Electronic Communications Privacy Act's penalties were too severe for the first offender, who, without an unlawful or financial purpose, intercepts a cellular telephone call or certain radio communications related to news-gathering.

Senator Simon's amendment reduces the penalty for such an interception of an unencrypted, unscrambled cellular telephone call to a $500 criminal fine.

Scanning enthusiasts have argued to the Committee that the mere monitoring of cellular telephone calls should not be illegal. That argument ignores three important realities. First, Congress, in passing the 1968 wiretap law already made willful monitoring of such telephone calls illegal when at least part of the conversation is carried by wire. Second, unlike many signals which are more commonly scanned, the design of the cellular telephone system makes the intentional monitoring of specific calls more difficult because they are handed off among cells. The Committee is not convinced that these arguments overcome the need for protection of privacy interests.

It has been suggested that the Federal Communications Commission consider labeling requirements on cellular telephones, radio scanning equipment, and private satellite video communications. The Commission might consider the feasibility of requiring that cellular telephones be labeled to indicate that cellular calls are radio-based communications, and as such, portions of the communication may be intercepted by available scanning equipment and of requiring that scanning equipment be labeled to indicate that the intentional interception of protected communications could be a Federal criminal violation.

Since the law deals with wire tap laws, satellite, computer and others, I have only printed the portions that I think are of interest to us as scanner hobbyists.

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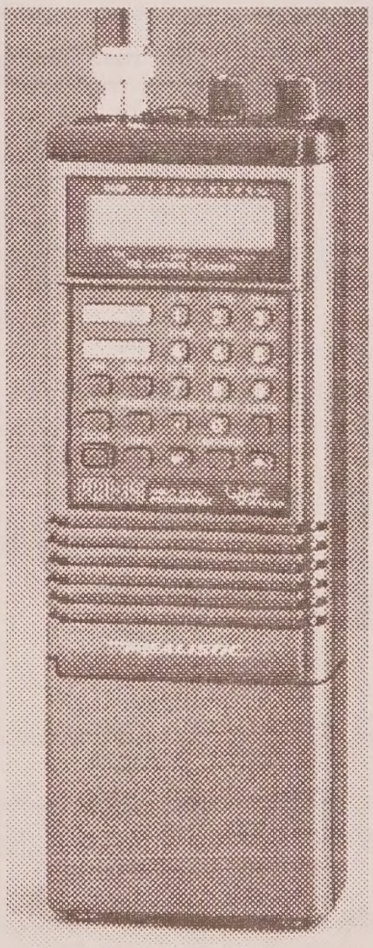

Continued from page 4

vides truck and vehicle speed limits on all highways with mile post notations for reduced limits.

Since the book is bound with a plastic spiral binding, its pages can be removed and three-hole punch for notebook use when taken on your next trip as you motor through the various arsenals of enforcement choices seeking positive cash flows. I have personally found the book to be extremely accurate in frequency data - better then some of the national frequency directories which are lacking, in many cases, the frequency usage detail which is a must to survive while driving the 48 states. Truckers will find a gold mine here.

I highly recommend this book for scanner users as the book provides a wealth of information on traffic enforcement, but provides a national compendium of related data not found elsewhere in one concise source. The book should not be purchased to beat the law, but purchased to safely drive within the law.

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Extended Warranty. 2/3 yrs		$40/$55

Specifications:

Coverage:	27-54, 108-174, 406-512, 830-950MHz
Sensitivity:	.4uV Lo,Hi. .8uV Air. .5uV UHF. 1.0uV 800
Scan Speed:	15 ch/sec.
IF:	21.4MHz, 455KHz
Increments:	10,12.5,25,30
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RS232 Control Package (software & cable) offers spectrum display and database.	SCS2	$295.00
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Coverage:	1MHz-1500MHz
Sensitivity:	.35uV NFM, 1.0uV WFM, 1.0AM/SSB/CW
Speed:	38 ch/sec. scan. 38 ch/sec. search
IF:	750.00, 45.0275, 5.5MHz 455KHz
Increments:	5,12,5,25 KHz
Audio:	1.2 Watts at 4 ohms
Power:	Input 13.8 V. DC 300mA
Antenna:	BNC
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- Telescopic Antenna
- One Year Limited Warranty.

Options:

Earphone.	EP200	$2.00
External Speaker. Mobile Mount.	MS190	$19.50
Extended Warranty. 2/3 yrs.		$65/$75
Mobile Mounting Bracket.	MM1	$14.90
RS232 Control Package (software & cable) offers spectrum display and database.	SCS3	$295.00
Wide band preamp	G-W2	$89.00

Specifications:

Coverage:	100KHz-2036MHz
Sensitivity:	.35uV NFM, 1.0uV WFM, 1.0AM/SSB/CW
Speed:	20 ch/sec. scan. 20ch/sec. search
IF:	736.23, (352.23) (198.63) 45.0275, 455KHz
Increments:	50Hz and greater
Audio:	1.2 Watts at 4 ohms
Power:	Input 13.8 V. DC 500mA
Antenna:	BNC
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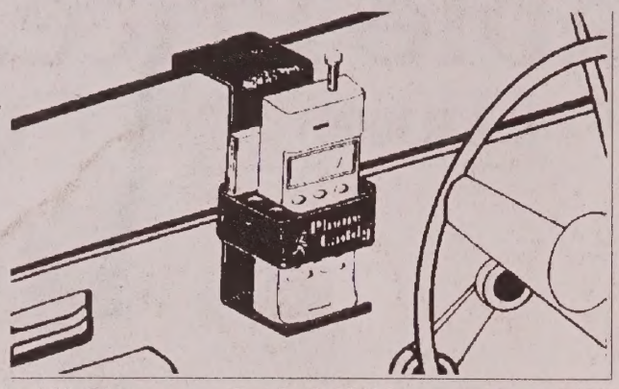

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